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ABSTRACT

This report provides a general overview of technical and vocational education in Vietnam, with information on the country's economy, climate, population, and culture. It summarizes the history and present practices of these types of education in the country, and suggests measures to improve the quality of teachers and instructors. Some of the information provided in this overview includes the following: (1) Vietnam is on the way to shifting its economy from a centralized and subsidized mechanism to a socialist-oriented market mechanism and modernization; (2) human resource training is an immediate necessity; and (3) the vocational-technical education system is being restructured to provide diversified schools, classes, and courses, to improve the curriculum and training methods to make the system more flexible, and to develop more semipublic and private schools and classes. (KC)

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CASE STUDIES ON TECHNICAL AND VOCATIONAL EDUCATION IN ASIA AND THE PACIFIC

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International Project on Technical and Vocational Education
Projet international pour l'enseignement technique et professionnel

CASE STUDIES ON TECHNICAL AND VOCATIONAL EDUCATION IN ASIA AND THE PACIFIC

The Development of Technical and Vocational Education for Vietnam— A Case Study in Quality Improvement

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UNEVOC is the International Project on Technical and Vocational Education which was launched by UNESCO in August 1992. In the field of technical and vocational education, UNEVOC aims to foster the international exchange of ideas, experience and studies on policy issues; strengthen national research and development capabilities; facilitiate access to data bases and documentation; promote innovations in staff development; and support international cooperative actions.

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KEY FACTS

Area	330,363 sq km
Population	75 million
Population growth rate	2.1 per cent (1994)
Official title of country	Socialist Republic of Vietnam

Climate and geography

Vietnam is located inside the Tropic of Cancer in South East Asia, between latitude 8°30'N to 23° 22'N. Vietnam has a humid tropical climate and is prone to monsoons.

Official language
Vietnamese

Ruling party	Communist Party
Head of government	Prime Minister Vo Van Kiet
Currency used	Dong
Political system	Vietnam is a socialist country, with the National Assembly as the major legislative body. The executive body is the Government is administered by the ruling Communist Party. In addition to these bodies, there are organisations representing people from the trade union, youth and women's unions, etc.

Education
The national education and training system of Vietnam is complete with the following four sectors: preschool, general, Voc/Tech education, and higher education. Preschool education includes creches (for children up to the age of 3 years) and kindergartens (for children up to the age of 4 -6 years). General education consists of three levels: 5 year primary (grade 1 - 5), 4 year lower secondary (grade 6 - 9) and 3 year upper secondary (grade 10 - 12). The Vocational and Technical Education Sector consists of two types: vocational schools and centres which are designed to train skilled and semi-skilled workers, and secondary technical schools designed to train practitioners at the intermediate level in economics, medicine, teaching, culture and art. Higher education includes three level: Bachelor, Masters and Doctorate Degrees.

Economy
Vietnam is an agricultural country with the principal rice producing areas of the Red River and Mekong Deltas. Vietnam has many kinds of fruit and tropical plantation. In Vietnam forests take up a large proportion with precious woods, and economically valuable forest products. Vietnam has more than 2000 km of coastline and more than 2500 rivers. There is a wide range of fish and sea produce. Vietnam is rich in minerals such as: chrome, nickel, iron, silver, gold, precious stone, coal, oil, etc. Vietnam has good textile and handicraft productions.

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EXECUTIVE SUMMARY

Vietnam is on the way to shifting its economy from centralised and subsidised mechanism to a socialist-orientated market mechanism and to step by step industrialise and modernise the country. In this context , the training of human resources to fulfil the goals of socio-economic development constitutes a significant and immediate task. Therefore, the education and training together with the science and technology have been considered first national priorities and should be further developed in the future with respect to both their scale and quality.

During the last few years, Vietnam has been restructuring the Voc/Tech education systems along the following directions:

Diversifying forms schools, classes and courses
Providing the youth and other workers with new opportunities to study by giving then various choices in terms of further education, which are suitable to the capacities and conditions of each person, thus rendering education and training popular, with the noble goals of enhancing the educational level of the population, training manpower and enriching the already gifted people. Under the new regulations there are muligrades and many levels for technical and vocational schools. This diversification will help the Voch/Tech system to expand so as to meet the varying needs for manpower of various economic sectors and geographical areas, build its ties with the community and rapidly respond to the socio-economic requirements of the country.

Improving curricula and training methods in order to make the system more flexible
The scientific-technological revolution is going on rapidly changing the characteristics and nature of the labour work. The utilisation of modern facilities and automatic equipment has increases the intellectual nature of the work conducted by the labourers, therefore, the skilled workers must have a high educational level and adequate basic technological knowledge. Therefore, workers and technicians must have wide knowledge and skills and be trained with a wide profile.

Socialising education - training
While the investment capacity of the State is still limited, schools should mobilise many investment sources to exist and develop. On the other hand, it is necessary to make full use of the brain and golden hands of the society in the process of training. This policy points to the need for developing semi-public and private schools and classes.

1. BACKGROUND ON THE TECHNICAL AND VOCATIONAL EDUCATION OF VIETNAM

1.1 ECONOMIC CONDITIONS

The Socialist Republic of Vietnam is located on the eastern portion of the Indochinese peninsula on the side of the East Sea. The northern-most point of Vietnam is parallel 23° 22' N.L. The southern-most point is parallel 8°30' N.L. It is confined in the mainland between meridian 102° 10' and meridian 109° 24'.

Territorially, Vietnam covers a mainland area of approximately 330,363 square kilometres and a vast expanse of territorial waters comprising large continental shelves and a system of archipelagos in the East Sea.

Vietnam has a mainland border of 3,730 kilometres bordering on the People's Republic of China to the north, the People's Democratic Republic of Laos to the west, and on Cambodia to the south-west. To the east and south, it is washed by the East Sea, with a coastline stretching 3,260 kilometres.

In Vietnam, tropical forests take up a large proportion of the country accounting for 18,967,000 ha in total area. However, there are also forests of pines and of trees that shed leaves in winter. Vietnam can boast a wide range of precious wood and economically valuable forests products. Preliminary statistics have revealed about 1,100 species of wood-trees of 100 Families.

Vietnam's territorial waters, which develop from the Bac Bo Gulf (less than 70m deep) to the Gulf of Thailand (not more than 50m deep), are a comfortable millieu for sea creatures, a source of profit for Vietnam. There is a wide range of sea-fish, more than 2000 species. Of them about 100 are of high economic value. Different fish live in different layers, on the surface and in the deep. Shrimps and cuttle-fish are an important source of sea-product incomes, second only to fish. There are as many as 80 species of shrimps and 10 species of cuttle-fish. Every year, Vietnam's seas provide approximately 600,000 tons of sea-products.

Along the coast, there are good natural ports such as Da Nang, Cam Ranh, Vung Tau, Quy Nhon, Nha Rong. Vietnam's coastal areas boast ideally beautiful holiday resort for tourism: Ha Long Bay, Bo Son, Sam Son, Cua Tung, Nha Trang, Vung Tau, Ha Tien, Da Lat.

Vietnam is rich in minerals producing chrome, nickel, cobalt, copper, iron, zinc, silver, gold etc. Most host sedimentary mines were formed in shallow, ancient seas, coastal areas or large lakes, and yielded phosphate apatite, iron, manganese, bauxite, coal, oil, gas, etc. The coal mines in Quang Ninh; the oil fields in South Vietnam's Continental shelf; the sedimentary iron mines in Bác Thái, Láo Cai, Yên Bái, Nghê An, Hà Tinh; the bauxite mine in Lang Son; and the apatite mine in Lao Cai are important mines.

Located inside the Tropic of Cancer, and in the South East Asia monsoon area, Vietnam has a monsoonal humid tropical climate, with humidity, heat and seasonal rains being the salient features. The abundance of rain and warmth provide good conditions for vegetation and fruit plantations.

Vietnam is an agricultural country with two major rice baskets: the Red River and the Mekong River Deltas.

Vietnam has good conditions for economic development, however after 30 years of war, Vietnam has many difficulties.

After reunification in 1975, Vietnam first pursued development as a planned economy. Progress was fraught with problems of integrating the disparate economic systems and conditions in the north and south. Inappropriate collectivisation of agriculture and centralised bureaucratic management approaches failed. The country suffered economic stagnation. The problems were recognised as early as 1979. A first phase of efforts to improve the economy made agriculture more family-based through a contract system and decentralised some production decisions to state enterprises.

The second phase of measures was introduced in 1985, and the adoption in 1986 by the Sixth Party Congress of the renovation program for social and economic reform, known as "Doi moi", ensured an economy in rapid transition. The Seventh National Congress of July 1991 approved measures to continue progressive transformation of the economy from a centrally planned to a market-based system. The aim, as stated in the Strategy for Socio-Economic Stabilisation and Development to the Year 2000, is ". . . to continue with the abolition of a system based on bureaucratic centralism and state subsidies, to establish harmoniously and conduct efficiently the state-controlled market system". (Communist Party of Vietnam, July 1991, p.172)

Two years later, Resolution No.16 of 1988, New Regulation for the Non-State Sector, aimed ". . . to tap the potentials of the non-state economic units and turn them into important components of the national economy". The third and most decisive phase of reform in the Vietnamese economy was initiated in 1989. Measures to correct imbalances and earlier partial reform were introduced to promote a state-managed market economy. The most notable administrative policy measures were virtual decontrol of prices, full monetising of the wage system and abolition of mandatory targets and subsidies underpinning state enterprises. These effectively established competition and the price system as the operative mechanism across the economy. In 1990, a decree provided for a free market banking infrastructure, and another set out labour regulations for enterprises with foreign capital.

Provision for an adequate legal framework for a marked economy and a proper system of taxation are soon to be set in place.

The measures adopted proved immediately effective. Agriculture grew by 7.4 per cent in 1989, leading to resumption of export, for the first time in many years, of 1.45 million tonnes of rice. After a decline in 1989, industry registered a growth of 4.5 per cent in 1990. Exports grew by 87 per cent in 1990 and by 24 per cent in 1991. Command economics has not been totally removed, and 'supply targets' are still applied in some areas of production. However, foreign investment, joint ventures and the private sector have grown. Export promotion zones have been and are being created. Some 200 joint venture investment licenses were issued by January 1991, totalling US$1.5 billion, and 2,000 applications were received in the first six months of 1990. National income grew by 4.0 per cent per annum over the period 1986–89.

Orientation for the five-year Socio-Economic Development Plan 1991–1995 was finalised in 1991. The plan's overall objective is to stabilise the socio-economic situation in order to lay the foundation for accelerated growth. Stability is being sought in the context of continued economic reforms increasing industrial and agricultural output, firm financial and monetary policies, and the final abolition of the pervasive subsidy system. The principal economic targets are to diversify and raise the production of staple and processed foods, to increase the availability and choice of consumer goods, and to expand exports. Specific plan targets include achieving an average annual economic growth rate of around 5 to 6 per cent, with the industrial sector growing at 6 to 7 per cent and agriculture at 3.5 to 4 per cent. Exports are projected to more than double with a substantial contribution from the petroleum sector. It is hoped that the population growth rate will be reduced by 0.06 per cent per annum, but that the labour force will grow at 2.75 per cent per annum during the Plan period. The new economic policies seek to mobilise the potential of all sectors of the economy. Emerging from these changes is the realisation that Vietnam needs an educated and trained work force capable of coping with modern technology.

Thus the Seventh Party's Congress in 1991 stipulated that:

Education and training policy aims at developing human resources, raising the people's intellectual level, and training talented people. The educational and training system is to be overhauled to achieve higher quality and practical efficiency, while the scope of education and training will be expanded in keeping the objectives and tasks of socio-economic development.

1.2 HUMAN RESOURCE DEVELOPMENT

Vietnam has an abundant labour force — a valuable asset for the country. However, this asset may easily be turned into a burden and a source of social evils if it is not appropriately tapped. Of the existing labour force of about 30 million, only 12 per cent have been trained. In the agricultural field, farmers account for about 80 per cent of the population, but more than 90 per cent of agricultural labourers have yet to be given

any kind of training, even short-term or several month courses. Therefore, most of them have been working on the basic of traditional experience. Moreover, every year, they spend only half of the time on the crops and half of time is considered free time, while many trades needed for rural development have failed to be universalised, and many traditional trades of various localities have gradually slid into oblivion.

Besides, every year, half-a-million pupils leave school and enter the society without being equipped with necessary vocational knowledge and skills. Many demobilised soldiers arrive in their localities, a high number of labourers need to change their trades in response to the changes of the economy, millions of people are unemployed, etc. All this constitutes an imperative demand for vocational training.

The labour force sectoral distribution is: 54.7 per cent employed by collectives, 15.2 per cent by the state, and 30.1 per cent by others. Scientific and technical personnel, i.e.. the technical labour force, numbered 3.4 million or 12.0 per cent of the work force. Eighty-six per cent of professionally-trained persons were employed in state sector. The non-state sector accounted for 86.5 per cent of the total labour force but employed only 2 per cent of professionally-trained labour. Professionally-trained people mostly work in industry, construction and services. Agriculture, forestry and fisheries, engages over 70 per cent of the national labour force, employed only 7.0 per cent of those with professional training.

The overall unemployment rate in 1992 was 6.9 per cent. In the urban areas the rate was 13.2 per cent, compared with 4.0 per cent in the rural areas. The unemployment of young persons in the 13–14 age group (out-of-school youth) in the urban areas was 67.3 per cent, and in the age group 15–19 it was 45.7 per cent. The corresponding figures in the rural areas were 27.4 and 17.0 per cent. Many school leavers in the urban areas could not find employment. Possible reasons include inadequate education and training, lack of employment information services, inadequate job opportunities and labour market immobility.

Unemployment and underemployment are serious problems in Vietnam today. But the nature of unemployment has also changed. In the past, unemployment was transient in character (new entrants to the labour force waiting to be assigned jobs were classified as unemployed during the period of waiting); today however, unemployment can be characterised as structural in character (the unemployed include both new entrants and retrenched or retired workers and unemployment reflects the economy's inability to absorb the available labour).

Vietnam faced economic difficulties throughout the 1980s, however, the economic difficulties generated growing pressures for reforms.

Particularly significant were the reforms in the agricultural sector where a system of output contract with peasant household was introduced within the collective farms. The results were quite dramatic: agricultural output in general and paddy output in particular recorded spectacular growth in 1988 and 1989 and Vietnam, hitherto a rice importer, emerged as an important rice exporting country.

The reform measures implemented since then add up to a standard package of stabilisation and structural adjustment measures. These include a tightening of the government budget: de-collectivisation of agriculture and revival of family farming in the case of state enterprises, elimination of subsidies and decentralisation of decision-making, and active encouragement to private sector activity and foreign investment.

The reform measures, so far, have succeeded in reducing the macro-economic imbalances (both the rate of inflation and trade deficits have declined substantially).

This backdrop of economic difficulties and reforms is useful in understanding the nature of the employment problem which has emerged in recent periods. Until1987, employment growth generally kept pace with the growth of the labour force (around 3.3 per cent annually). As noted earlier, a good rate of output growth was also sustained until 1986 in spite of the economic difficulties. Thus it could be said that until 1987, no serious problem of unemployment emerged mainly because the pace of economic growth was reasonable but also because promotion of employment was an important objective of government policy.

Government policies which will affect employment growth in the medium term can be classified into two categories: those promoting economic growth and those promoting employment directly.

The recent economic reforms clearly indicate that the growth strategy adopted by the government has three basic elements: stimulating domestic private investment, encouraging foreign investment and promoting exports. The strategy has a fair chance of success. A recent study has shown that growth of the private sector in Vietnam is associated with mobilisation of idle savings. It is significant that private entrepreneurs do not regard lack of finance as a major constraint on expansion of their activities. Thus stimulation of private investment is likely to increase the overall rate of investment in the economy.

Success in promoting exports — another major objective of policy — depends critically on success in attracting foreign investment and here the long-term prospects are good. Vietnam is located in one of the most dynamic regions in the world and is surrounded by some of the world's strongest and fast-growing economies.

However, it will be quite a few years before all these possibilities are realised in practice, and the changes are substantial enough to bring about an acceleration in employment growth. First, growth of this sector is contingent on the expansion of the domestic market.

Given the conditions prevailing in Vietnam today, it is rapid agricultural growth which, in the short run, can substantially increase the demand for the products and services produced in the private sector. It is also known that the private enterprises have important demand and supply linkages with the state sector. A healthy growth of the state sector, therefore, its also necessary for the growth of the private sector.

Government policies relating to direct employment promotion amounts to three programs operating under the umbrella of the National Employment Scheme. These are establishment of New Economic Zones, soft loan programs for development of household enterprises, and special programs for returning refugees and migrant workers.

Promotion of labour mobility and training programs designed to develop entrepreneurial and vocational skills should, therefore, be regarded as a vital component of the economic reform program itself.

1.3 THE EXISTING SECONDARY TECHNICAL AND VOCATIONAL EDUCATION SYSTEM AS A PART OF NATIONAL EDUCATION SYSTEM

The national education and training system of Vietnam is complete with the following four sub systems:

- pre-school education,
- general education,
- VOC/Tech. education,
- higher education (see Chart 1).

Pre-school education includes creches (for children in the age up to three years old) and kindergartens (for children in the age of four to six years).

General education consists of three levels:

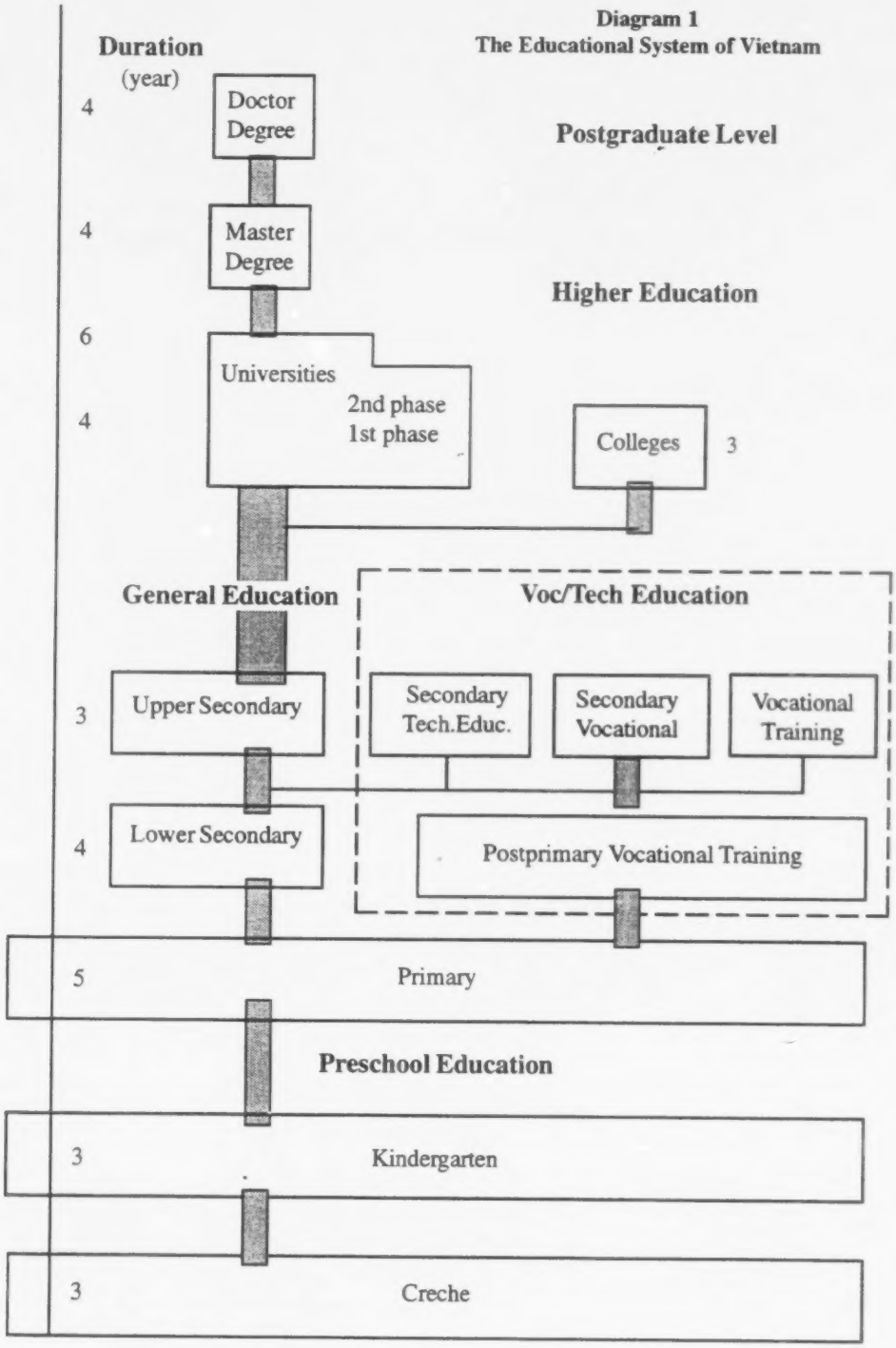
- five-year primary (Grade 1 to 5)
- four-year lower secondary (grades 6 to 9)
- three-year upper secondary (grades 10 to 12).

Vocation and Technical Education consists of two types: vocational schools and centres which are designed to train skilled and semi-skilled workers, and secondary technical schools which are designed to train practitioners with an intermediate level of techniques, economy, medicine, pedagogy, culture and art.

Higher education includes three levels:

- Undergraduate,
- master
- doctoral degree.

Diagram 1
The Educational System of Vietnam



1.4 THE STRUCTURE OF VOC/TECH EDUCATION SYSTEM

The system of secondary technical and vocational training is designed to train and provide the country with secondary level technicians, and workers and qualified professionals.
The system assumes a great variety of forms and consists of different models:

Vocational training school.

This is a formal and essential model in vocational training at present.

Vocational schools enrol students at two levels:

- Lower secondary education level; training period: two years for simple trades and three years for complicated trades.
- Upper secondary education level; training period: one year for simple trades and two years for complicated trades.
- Vocational schools are designed to train skilled workers for general trades in accordance with the nomenclature of trades to be trained.

A skilled worker is understood as a man trained according to an integrated program in such areas as: ethics, culture, techniques, and professional skills, capable of working at the typical position of the trade expected by society in keeping with each period of socio-economic development.

The training contents are divided into four groups:
General knowledge of maths, natural and social sciences general techniques for a group of trades, for the trade itself and practical skills.

The "practical skills" are the basic parts of the training and usually take up 55-70 per cent of the training duration. Fifty-five per cent practice is for the trades that require high theory. Practice at vocational schools is made up for two periods: practice of the trade basic skills is usually done at the school workshop and special practice at production positions is usually done at the factory where students have their practice. Following is the time allotted to different content groups in a vocational training program:

General knowledge	5–10 per cent of the training duration
Basic techniques	15–20 per cent
Professional techniques	5–15 per cent
Practice	75–55 per cent

Seventy-five to seventy-eight per cent of the training contents of the basic techniques, professional techniques and practice groups are fixed for the whole country, the remaining 2–25 per cent can be flexibly disposed of to suit local conditions.

The total number of Vocational training schools is 242, consisting of 119 under the management of various ministries and 123 under the management of cities and provinces. These schools are divided into, 7 branch-groups, that is electrical, construction, machinery, Agro- forestry-fishery, trade and service, informatics, postal service and others (Table 1).

Table 1

Branch Groups		Central Schools	Local Schools	Total
1.	Electrical	33	38	71
2	Construction	23	23	46
3	Machinery	25	24	49
4	Agro, Forestry, Fishery	10	10	20
5	Trade, servides	7	23	30
6	Information & postal service	7	0	7
7	Others	14	5	19

In these vocational training schools, 221 trades are being taught in (accordance with the list of trades for vocational training schools recently promulgated by Ministry of Education and Training (MOET).

1.4.1 SECONDARY VOCATIONAL SCHOOL

This is the model of a trade school where the training process is an integration of general education and professional skills.

The secondary vocational school enrols students finishing lower secondary education schools to train them both in general culture and trades. After graduation they are skilled workers with a correspondingly general education and are granted diplomas of skilled workers and proficiency diplomas of general secondary education. The duration is three years for simple jobs and four years for complicated jobs.

The secondary vocational school has a twofold objective: training skilled workers and qualified professionals as a vocational school and providing students with general cultural knowledge correspondent with the cultural level of general education.

As such, in terms of content, the secondary vocational school shares the same vocational content as a vocational school and the same, yet somehow simplified, cultural content as a general education school.

However, the important thing here is that in the training process not only are the technical subject disciplines closely associated with the cultural, but also the cultural and technical contents are integrated to both simplify and improve the training quality.

1.4.2 VOCATIONAL TRAINING CENTRE

These are designed to teach jobs and give short-term job instructions in order to universalise jobs for young people and untrained workers, particularly agricultural - labourers in rural areas.

The vocational centre, being local in character, teaches minor handicrafts and local trades in order to meet the demand of the local labour market. In addition, the vocational centre must also disseminate to the people the latest technical achievements and the production experience suited to the localities. As such, vocational centres enrol students with all levels of education and at all ages for each trade. The duration for each course is not longer than six months. Students are given a certificate after a course. The trades taught at centres are contract-based.

1.4.3 VOCATIONAL CLASSES AT PRODUCTION ESTABLISHMENTS

These are also a model of a short-term vocational training, the duration of which is from three to six months. They are designed to train semi-skilled workers to work in auxiliary positions or to do simple jobs as is required by a given production unit. Teachers are technicians or highly qualified workers appointed by the unit. Students also do their practice at the very working positions where they are supposed to work later on. Thus, the training process is closely related to the needs, conditions and technological process of the unit. Occasional classes of this kind may be regular or seasonal and the trades taught are also subject to changes to suit local demand.

1.4.4 PRIVATE VOCATIONAL TRAINING SCHOOL

In Vietnam, there are also private vocational training schools and classes. They are opened to get the people — their manpower and financial power — involved in teaching trades to satisfy social demands, in the interests of the present-day multi-sector economy. Private vocational training schools also have legal rights as public trade schools.

Private vocational schools and classes are monitored and supervised by the Educational and Training Service Departments with a unified nation-wide policy. After graduation students are also issued a proficiency certificate.

1.4.5 SECONDARY TECHNICAL SCHOOLS

These are designed to train practitioners with an intermediate level of techniques, economy, education, culture, medicine and art.

The total number of secondary technical schools is 270, comprising 100 central schools under the management of various ministries and 170 local schools under the management of cities and provinces.

Table 2
Secondary Technical Schools Grouped by Branch

Branch groups	Number of schools
Industry	38
Agriculture, forestry, fishery	42
Economic	60
Teachers' training	58
Health care service and sport	47
Culture and arts	25

In production sectors, under the guidance of engineers, secondary level personnel organise and guide workers to carry out the designed technological processes or in part the design research works. The secondary level personnel can also work as production team leaders, shift leaders, workshop foremen or assume other technical responsibilities.

The secondary technical school enrols students at two levels:

- With regard to the branches that do not call for high technical requirements, students finishing lower secondary education are enrolled (duration 3–3.5 years). After graduation, students have a level of culture equivalent to upper secondary general education and a secondary technical education to serve principally local needs. They are issued a secondary technical education diploma, which is considered as equivalent to the upper secondary general education.

- Regarding the branches calling for a complicated professional and technical level, students finishing upper secondary education are enrolled (duration 2–2.5 years) and they are issued a secondary technical education diploma.

In addition the school can also enrol workers and professional personnel graduating from vocational schools for a one-year training course to attain the secondary level of proficiency.

A secondary level worker must be qualified enough to carry out both technical and management responsibilities and to operate machines like an average level worker. However, the training qualification frame is larger for a secondary level worker than for a skilled worker. A secondary technical worker is trained according to his/her branch of speciality, where as a skilled worker is trained in accordance with his/her trade. There are many trades in a branch of speciality. To this end, the training content is also divided into four groups: general knowledge, fundamental techniques of a given group of branches, specialised technical knowledge of a branch and practical skills consisting of those necessary for a technician and a number of practical skills necessary for a worker in some of his/her main trades. Structurally speaking, the groups of knowledge are the same as in the curricula for vocational schools. The only difference is the ratio — in the terms of ratio, the theory in secondary technical schools makes up 55–60 per cent course.

1.5 TEACHERS IN SECONDARY TECHNICAL SCHOOLS AND VOCATIONAL SCHOOLS

Teachers play an important role in vocational training, especially in practice. They provide students with knowledge, professional skills, moral qualities and interest in the trade.

Teachers can be divided into 3 levels, in accordance with their education, qualifications and experience - teachers, principal teachers and highly qualified teachers.

Teachers are directly responsible for teaching theory and practice. They also teach in refresher courses. In terms of qualifications, teachers should have :

- a diploma (of a technical college, a technical teachers' college or a secondary technical school) and, at the same time, the level of a 3/7 or 4/7 grade worker. For lack of such a diploma, there must be pedagogy certificate level as is required by the Ministry of Education and Training.

Principal Teachers play a leading role in teaching, education, training and researching the application of new methods and techniques to teaching.

They must be in charge of compiling textbooks (of their disciplines), help design and improve the training objectives and curricula, write documents and help other teachers improve their professional and pedagogical levels. They are mainly responsible for the professional and pedagogical activities in the group, for the building of appropriate classrooms, for the production practice of students and for the solution of any technical/technological difficulties in the combination between practice and production. They must also conduct research activities and apply technical advances to teaching.

Highly Qualified Teachers are the highest-qualified officials, occupying a predominant role in teaching and applying technical and scientific advances to vocational training schools and secondary technical schools.

In addition to the duties similar to those of principal teachers, qualified teachers should assume the following responsibilities:

- in charge of designing and improving the training objectives, the curricular, the disciplines of higher branch
- in charge of heading or taking part in writing and checking textbooks for general use
- summing up experience and improving the training contents and methods
- in charge of writing documents (professional and pedagogical) for lower-grade teachers
- in charge of some theme of scientific research (Ministerial level) or taking part in research (a state level) into the application of technical advances to teaching

1.6 TEACHER TRAINING SYSTEM

Under the Ministry of Education and Training, there are four technical teachers' schools and two technical teachers' colleges to train teachers for vocational training schools. The objectives and contents of these schools are four-fold:

- General technical knowledge
- Specific technical knowledge
- Pedagogical knowledge
- Practice and trade skills

However, there are shortages in many specific branches in the six teachers' schools mentioned above, so it is not possible to train teachers for all branches and trades. Many teachers now working for vocational training schools and secondary technical schools have been selected from among the engineers. They must be trained in teaching method level 1 and level 2 before they can undertake any teaching. That is the reason why plans have been made to open pedagogy departments in technical colleges to train teachers for vocational training schools and secondary technical schools.

1.7 VOCATIONAL TRAINING PRACTICE COMBINED WITH PRODUCTION IN VOCATION AND SECONDARY TECHNICAL SCHOOLS

As has been explained earlier, the time ratio devoted to practice is about 65–75 per cent of the whole course. Regarding secondary technical schools, the ratio is about 40–45 per cent. These figures have shown how important practice is in the training process.

To improve the quality of training, practice is combined with the production of wealth for society. This combination will result in:

- stimulating the students' interests and enhance their sense of responsibility in turning out products that are useful and not substandard. This will improve their professional ethics, their love for the profession and the quality of learning
- linking the school with social production and markets in the choice of practice exercises, i.e. producing to satisfy social demands. In the production process, students are guided by the commonly-accepted norms, thus acquainting themselves with the production tempo in the movement for improving productivity and quality. This way quality of their learning will also improve
- improving teachers' skills themselves. In guiding their students in practical work, teachers find it necessary to improve their theoretical and practical knowledge, to study and apply advanced technologies to teaching. On the other hand, teachers should train to become good organisers and managers of production work

- creating definite material advantages, improving the living standards of students and teachers as well as the school's physical facilities in the present condition of restricted public investment

2. FORECASTS ON FUTURE VOC/TECH EDUCATION SYSTEM DEVELOPMENT

To meet the need of socio-economic development of the country in the new phase, the Voc/Tech Education System in Vietnam is witnessing radical changes both in terms of system structure and in training contents and methods.

The Resolution of the 4th Party Congress affirms the task of Voc/Tech Education in the coming years as: "to expand vocational education, gradually from a technical education system in the society, train a contingent of high skilled workers" and "to introduce a new level of secondary education so as to prepare for a portion of students to continue with their education and for a majority of graduates to enter the real life."

Proceeding from the above directions, Voc/Tech Education will be developed qualitatively and quantitatively, both on a selected and large-scale basis.

2.1 REGARDING SYSTEM STRUCTURE

On the one hand, forming **a system of selected schools with high quality** to train and upgrade a contingent of highly skilled workers, able to use modern equipment, facilities, and apply advanced technologies to prepare for the needs of socio-economic development of the country in the new phase.

On the other hand, expanding forms of **short-term vocational training** for the youth, gradually universalise trades to form a technical education system in the society and to introduce general technical education and short-term vocational training to general schools, equipping the pupils with necessary vocational knowledge and skills, thus enabling them to find appropriate jobs in the future or to start working immediately in case of the absence of favourable conditions for further education.

2.2 TRAINING DELIVERY

Training delivery will be made flexibile by the use of modules providing employable skills to better meet the needs and abilities of the trainees, and to respond to the diversified requirements of the labour market.

2.3 REGARDING WORKFORCE STRUCTURE

Voc/Tech schools will provide the society with a work-force for synchronised levels and appropriate trades to meet the needs of socio-economic development in the new phase, from semi-skilled workers to skilled workers, highly skilled workers and technicians. To successfully implement this task, it is necessary to have reliable forecasts on the needs of the labour market by trades, economic sectors and regions.

Quantitatively speaking, there is not much data supporting such forecasts, but the outcome of the National Project on Education Sector Review and Human Resources Sector Analysis/VIE 89/082 carried out in 1991–1992 provides the following forecasting data:

Table 3
Forecasting needs for Voc/Tech Education

Needs	Year		
	1995	2000	2005
Vocational Training			
• Enrolment (long-term training) of students	188000	280000	367000
• Teachers	11300	16800	22000
Secondary Tech Education			
• Enrolment of students	84900	103800	134000
• Teacher	6850	8370	10790

3. WAYS TO ACHIEVE THE DESIRED FUTURE SITUATION

3.1 EXISTING ISSUES AND PROBLEMS

The Voc/Tech Education System in Vietnam has been developed with more than 700 training institutions of diversified forms, able to train a contingent of labourers for simple trades, semi-skilled workers, skilled workers and technicians and provide millions of labourers for various socio-economic sectors in the entire country.

During the past years, efforts have been made within the voc/tech training system — as a branch — to adapt to the shift of the national economy, from a centrally planned mechanism to a market-oriented one.

However the system still has the following problems and issues.

3.1.1 POOR LINKAGE BETWEEN VOCATIONAL/TECHNICAL EDUCATION AND PRODUCTION AND EMPLOYMENT

In Vietnam there are 270 secondary technical schools preparing intermediate level technicians in over 60 disciplines, and 242 Vocational Schools and 200 vocational training centres training semi-skilled and skilled workers in over 200 trades in industry, services and agriculture.

Major issues identified in the Education Sector Review and Human Resources Sector Analysis are: unclear delineation of boundaries between technical and vocational programs leading to confusion, duplication and wastage of scarce resources; and irrelevance of training to labour market needs resulting in considerable unemployment of technical and vocational school graduates. On the other hand, there is a scarcity of skills vital to development at this crucial stage of socio-economic transition.

Reasons for the unclear delineation of boundaries between technical and vocational programs appear to be: the multitude of agencies dealing with technical/vocational education; the absence of overall policy guidelines dealing with curricula, entry requirements and final examinations and tests; and the willingness of the authorities to accommodate both graduates of lower secondary schools into technical schools and graduates of upper secondary schools into vocational schools. Reasons for the irrelevance of training to labour market needs are the lack of a dialogue between training authorities and employers resulting in a complete divorce of the training process from employment, and bureaucratic procedures coupled with severe

underfunding which inhibit the necessary flexibility and adaptability of the training system.

The profound socio-economic changes taking place in every aspect of the Vietnamese society call for appropriate adjustment of the education and training system while, at the same time, provide an excellent climate for such changes to take place. The opportunity should be taken to establish policies to strengthen the relationship between vocational/technical education, production and employment. This can be done by pursuing the following strategies:

- establishing a vocational training and funding board under the authority of a deputy prime minister for human resources development;
- rationalising and consolidating the formal training system and expanding non-formal programs in response to local needs
- establishing national trade standards and introducing trade testing and certification

3.1.2 IRRATIONAL SCHOOL-MAPPING

Most of the schools are situated far from the densely-populated areas, transportation routes and production units, as during the wartime, these schools were evacuated and up to now necessary conditions have not been available to change school locations. Therefore, it is very difficult to combine training with production.

The schools are under the management of various ministries, branches and localities. When established, they were not included in an overall plan for school mapping. Therefore, the phenomenon of overlap between schools has become commonplace. In one locality, there are many schools under different ministries operating and training the same trades. This argues for the lack of concentration in investment, which in turn affects training quality.

3.1.3 CURRICULA FOR TRAINING ARE OUT OF DATE COMPARED WITH PRODUCTION

According to the educational sector review carried out by the MOET, one of the major shortcomings of the sector is the absence of the linkage between training, production and manpower requirement. This assessment results from the following aspects:

- The curricula for training are outdated compared with today's production technologies. It has been used for dozens of years without improvements.
- There is an acute lack of skill standards for each branch and trade, which will serve as the basis for training curricula. Therefore, training curricular only focuses on theory and is divorced from production needs.
- Training goals and content and structure of curricula were prepared long ago just to meet the need of the state-owned economy characterised by the subsidised centrally planned mechanism. Therefore, today they have become inflexible and out-of-date, given the diversified needs for manpower of the multi-sector market-oriented society.
- There is a shortage of continuity in terms of training goals and curricula between short-term and long-term training and between vocational training and secondary technical education.
- In general, production units fail to participate in the preparation of training goal, curricula, and in the course of evaluation through examination of schools, therefore, schools can maintain only poor linkage with production.

3.1.4 SCHOOL FACILITIES AND EQUIPMENT ARE OUTDATED

Most of the schools have very poor and outdated facilities and equipment for training. Especially, they cannot

approach to modern teaching tools and technologies, so training methods can hardly be improved. Moreover, the budget for training is very low, which badly affects training quality.

3.1.5 WEAKNESSES IN, AND CONSTRAINTS UPON TEACHING STAFF

There have existed major problems within the contingent of teachers, given the future needs for the development of the sector.

Vocational/technical teachers must first of all have standard vocational skills, adequate technical knowledge and pedagogical ability. However, the existing contingent of teachers were selected from various sources and up to now have not been classified by the criteria promulgated by MOET, so teaching quality of a large number of teachers is very low. Most of the teachers have not attended any upgrading courses, so part of their much-needed knowledge slid into oblivion, while their professional skills are outdated compared with modern teaching and production technologies.

Moreover, teachers' salaries are too low in comparison with that of people having the same professional level, now working in enterprises. So, a large number of qualified teachers have to quit schools and take up other jobs. The lack of competent teachers has therefore become more acute.

3.2 MAIN POLICIES AND DIRECTIONS ON THE RESTRUCTURE OF TECHNICAL EDUCATION AND VOCATIONAL TRAINING IN VIETNAM

Resolution of the 7th Party Congress affirms as follows: "Education and training, together with science and technology should be considered first national priority."

A resolution of the Conference of the Central Committee, 4th Legislature has laid down the following direction:

". . . Vocational education should be expanded, a technical Education system be gradually formed, a contingent of high-grade workers be trained."

". . . Target schools and classes with high quality should be opened."

During the past years, MOET has been renovating the Voc/Tech education systems along the following directions:

3.2.1 DIVERSIFYING FORMS OF SCHOOLS, CLASSES AND COURSES

Providing the youth and other labourers with new opportunities to study giving them various choices in terms of further education, which are suitable to the capacities and conditions of each person, thus rendering education and training popular, with the noble goals of enhancing the educational level of the population, training manpower and enriching the already gifted people.

Under the new regulations there are **multigrades and many levels** for technical and vocational schools. In a Technical/Vocational School there are short-term training courses for semi-skilled workers, long-term training courses for skilled workers and other courses for training technicians of many economic branches. Students can choose an appropriate course according to their needs and personal conditions.

Beside schools there are vocational training centres at district level which provide short-term training and upgrading courses to meet the local demand of labour force, especially in rural areas.

These kinds of training institutions are very flexible. The training trades in the Vocational Centres may be changed every year to meet changes of the district labour market. Therefore the permanent staff of the Centre

are only about 6–10 persons and the other teachers are working part time by contract according to the needs of the Centre for developing new trades.

This diversification will help the Voc/Tech system to expand so as to meet the varying needs for man-power of various economic sectors and geographical areas, build its ties with the community and rapidly respond to the socio-economic requirements of the country.

3.2.2 IMPROVING CURRICULA AND TRAINING METHOD IN ORDER TO MAKE THE SYSTEM MORE FLEXIBLE

Today, with the 'open door policy' pursued by many countries, international transactions and cooperation have never been broader. Yet while we can import modern technologies and equipment from abroad, we must train a contingent of skilled workers and high quality technicians mainly ourselves so that they can adapt to typical conditions of Vietnam, thus helping us to bring into full play the advantage of our rich human resources.

However, in order to approach modern market-orientated production and service industries, workers and technicians should have new qualities:

The scientific-technological revolution is going on rapidly leading to the changes in the characteristics and nature of the labour work. The utilisation of modern facilities and automatic equipment has increased the intellectual nature of the work conducted by the labourers, therefore, the skilled workers must have a high educational level and adequate basic technological knowledge, which result in their enterprise creativeness and further advancement in their trades.

The trend for the combination of various scientific-technological branches is currently prevailing. Today, modern equipment is normally a product of several branches of the industry, such as machinery, electronic, micro-processing, etc. Thus, in order to operate, repair or maintain such equipment, workers and technicians must have wide knowledge and skills concerning various technological fields and be trained with wide profile. A wide training profile helps labourers to adapt quickly to new changes of production technologies in production, and of the economy and society in general.

In order to maintain and develop their trades in a multi-sector market-orientated economy, labourers must have a certain knowledge of economic management, business running and especially the much-needed enterprise, so as to find jobs, handle production, and decide on the trend for the development on the basis of their own capacities and conditions. This is a very important factor.

3.2.3 SOCIALISING EDUCATION — TRAINING

Under the subsidised system, all the requirements of the schools are to be satisfied by the State, all pupils and students can expect scholarships, therefore the course of socialisation met with many difficulties while education and training, by their nature, are matters for the whole society. Regarding investment, while the investment capacity of the State is still limited, schools should mobilise many investment sources to exist and develop. Therefore at present only the good student and student who has economic difficulties can expect a scholarship and the others must pay school fees.

On the other hand, it is necessary to make full use of the brain and golden hands of the society in the process of training, especially in the training of traditional trades which are facing the risk of sliding into oblivion. This policy points to the need for developing semi-public and private schools and classes.

It is also necessary to build a close relationship between the State, training institutions and employers and to designate the responsibilities and roles of each side, thus facilitating effective cooperation amongst all sides in training the labour force.

Many vocational schools have a contract with factories every year. The schools provide the factories with skilled workers and the factories pay the school fee.

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